Sumner, Washington
January 19th, 1942

TO THE JOINT BOARD,
INTER COUNTY RIVER IMPROVEMENT COMMISSION,
KING AND PIERCE COUNTIES, WASHINGTON.

GENTLEMEN:

The Inter-County River Improvement Commission at its meeting in Seattle on October 20th, 1941 instructed us to make a survey of the situation, file recommendations and submit a program for the operation of this project.

Since that meeting the United States has been placed on a war footing. Any program will, consequently be subject to conditions that may develope.

On December 19th, 1941 we experienced a rise of water on the Puyallup River from approximately 13.0 feet to 20.4 feet above datum. This was the highest water since the 1933-34 flood. While this did not approach flood stage, it was sufficient to afford an opportunity to survey the results of the work accomplished during the past few years and determine what should be done in the immediate future, so as to preserve work already done. For protection to flood stage at 25.0 feet will require a program of considerable magnitude. Under present conditions it may be impossible to do more than hold what has been accomplished to date.

We have drawn up our program for 1942 that should have been satisfactory under conditions as they existed in 1941. This was based on the assumption that considerable help would be afforded us

by the Work Projects Administration which in the past has done much of the common labor. With this in view a new project was drawn up which has received Presidential approval and could be operated provided the labor were available. At present all W.P.A. labor is employed on National Defense work and the prospects of securing this assistance in the future are not very encouraging. While the immediate prospects may not be all that could be desired, it may be well to look into the future and thereby be in a position to take advantage of every opportunity that may arise when the National Emergency will be over. With this in view we wish to present conditions as we have found them and a program subject to whatever the future may develope.

Respectfully submitted,

F. E. Walter

F. E. Walter, Chief Engineer

R. H. Thomson

R. H. Thomson, Consulting Engineer

RECORDS

The records of the Inter-County River Improvement are mostly obsolete. We are using maps dated 1914. The original survey on the ground has become almost completely obliterated. A new survey should be made with permanent monuments established showing our property rights along the stream. Abutting property owners have changed and the river banks have been eroded causing channel changes.

Proper maps should be made showing conditions as they exist to-day. In case of flood damage to abutting property, from our present information the amount of damage would be only problematical. The survey should be so tied down that in case of erosion it would be possible to determine accurately the exact amount of land lost. At present rock is being placed along the banks and groins have been constructed, the location of which can be shown only approximately on the map.

This work which would undoubtedly take some time to accomplish and would cost considerable, would more than repay its cost in a short time. This is a project that should be given serious consideration with a view to its accomplishment at the earliest opportunity. The United States Government has initiated a program for long range planning and they are beginning to function in each State. We should be in a position to cooperate with them to the fullest extent. They require the sponsor to furnish the plans. This makes it almost imperative that we have the data from which to make the plans.

OFFICE

Our office is located on Stewart Road in Pierce County between Sumner and Auburn on the left bank of the Stuck River. The office building is a temporary affair reconstructed from several small buildings. Unfortunately it is on the right of way of the Puget Sound Power and Light Company. Recently they have constructed a new transmission line which passes over our building. They do not feel inclined to renew our lease without a great many reservations. This location is not particularly advantageous to the operation of the project. We have had some correspondence with the Army Engineers relative to operation of Mud Mountain Dam. Our part in this operation in addition to keeping in immediate touch with the stage of water at the Dam and recording of the stage of water in the Puyallup during flood periods, will demand most particular records.

An office location on the Puyallup will certainly become a necessity. When an office structure is built it should be one that will be permanent and so constructed that it will have fire proof storage for records and be of sufficient size to take care of such activities as may develope in the future.

SHOP

We have a shop at the same location as our office. The shop is equipped with lathe, drill press, electric welder, forge and the usual small tools. We have a supply of bolts, rods and fittings. There are certain pieces of equipment that have become obsolete and will never be used on the project. Some of this can be disposed of and some can be sold for junk. We have a 1½ ton Ford flat bed truck,

a Ford Panel delivery for the mechanic, a 1935 Chevrolet 2 door Sedan and a 1939 Studebaker Coupe. There is a large air compressor and a small portable compressor together with the rock drilling tools. This amount of equipment does not warrant the employment of full time mechanic as this work can be done either at the Pierce County Shops or by contract. Our mechanic recently went to another job and will not be replaced. We have just enough material and equipment on hand to require the services of a watchman. If we can dispose of our surplus here and move everything we use to the quarry we can save the expenditure for the watchman which could be expended on more important matters, perhaps on surveys and proper maps.

QUARRY

The quarry has been operated on the basis of getting as much yardage on the river as possible without close regard to the class of rock produced. There is a considerable percentage of rock which is not suitable for bank protection work and which should be wasted.

The best of the rock is in the center of the present face being worked, the major portion of the rock in the wings being quite unsuitable. Both the wings and the top should be wasted, as the cost of placing it on the river is greater than its value. The removal of this overburden could have been spread thru the past two years work and would have been reflected in a slightly higher cost per yard, which would however have had the advantage of producing a more durable grade of rock. The next year will show some increase in cost per yard delivered on the site, as it is recommended that the face of the quarry be shot back almost vertically to a certain height, then the top shot off and this top cap of soft rock be picked up and disposed of. This will give

a vertical face of the best rock in the quarry which can be shot off in benches and will give us a uniform grade of rock. This will give us periods when no rock will be hauled to the river as the entire operation will be disposing of waste.

The unit cost per cubic yard as measured by truck load is far from accurate and an attempt will be made to cross section the quarry on several shots to arrive at an equation between actual volume and as measured by truck. The cost of producing rock will be higher in the next year as indicated, although the results should be just as satisfactory. The need for another quarry is a matter of but a short time, and steps should be taken to secure a new location from which samples should be secured and preliminary drilling done. Several sites have been considered but no steps have been taken to investigate them.

There still remains a considerable amount of good rock in the present quarry. However the good rock may pinch out by the end of 1942 if rock is removed at the same rate as in the past. The disposal of the waste in the present quarry has been simple in the past as it was used to fill the gulch and make a floor for the quarry. This may have been ill advised as the rock at the present floor level is the best rock in the quarry and had the floor of the quarry been made fifty feet lower a large volume of good rock could have been taken out. This was the intent when the quarry was first opened as the first work was on a considerable lower level. We are studying means of opening and operating from that lower level. In making an estimate of unit cost for rock these matters must be considered.

The cost of operating the quarry could be reduced to a certain extent by using a larger fleet of trucks, as the same equipment

for loading could handle considerable more yardage. However, this would put us on an intermittent basis, and owing to the scarcity of suitable trucks we might not be able to find sufficient number available when needed.

Some economies can be effected by doing away with a checker and watchman at the quarry, which over a period of a year costs about $2500.00. The loss by theft would be but a small proportion of this amount.

WASTE

A considerable amount of waste from the quarry can be utilized on the Puyallup and Carbon Rivers in building dykes as it has to be loaded on trucks at the quarry to place in the waste dump and on short hauls the cost is not excessive and it is excellent material for such purposes. Much of it also can be used economically for the base on roads.

RIVER SECTIONS.

When the improvements on the Puyallup and White-or Stuck Rivers, were first put under your supervision, the fifteen mile area was for convenience of description, divided into seven sections, with their terminal fixed as near as possible by natural objects. Doubtless Prof. Roberts intended to divide the area into sections consecutively numbered from the mouth of the canyon down to the limits of the City of Tacoma, but he passed away before this was accomplished. In our survey, therefore, we were compelled to appraise the necessary work and probable cost for each section, in its entirety without reference to specific stations. Later in our report we submit a table showing our estimate of necessary costs to be incurred for each of the seven sections.

RESERVATION SECTION

17000 lineal feet- Tacoma City Limits to Clark Creek.

This section has concrete slab bank protection its entire length. Originally the toe of the slab rested on brush. After the 1933-34 flood it was found that the brush was deteriating and the slabs were dropping, some sliding out into the river. To overcome this difficulty sheet piling was in places driven along the toe of the slab. After eight years the sheet piling is failing and each high water is working thru the sheet piling and undermining the dyke under the slab. Rock has been placed along the toe of the slab over a considerable portion of this section. However, there still remains considerable area where the toe should be riprapped with rock and back filling done under the slab to keep it in position.

This section is on a very flat grade and the channel is silting up to a considerable extent. The War Department has a project to dredge the Puyallup River thru the City of Tacoma. This appropriation probably will not be available during the present emergency. When the river is dredged to the city limits some work should be done from the city limits of Tacoma to Puyallup. More will be said about this, later in this report.

This is a matter that will require much study as the channel will continue to accumulate silt to such an extent that eventually the carrying capacity of the channel will be practically destroyed. The dredging in the City of Tacoma will overcome this to some extent for a time until the Tacoma portion silts up again, but this entire section of channel falls under the back pressure of high tide, which kills the river's velocity, and thus causes the sand to settle.

MURPHY SECTION

8900 lineal feet, Clark Creek to Interurban crossing-Puyallup

This section has the concrete slab type of bank protection as the Reservation section and the same conditions exist along the banks. Also in diverting the old river channel to its present location by closing up horse shoe curves, it was necessary to construct dykes across the old river channels. These sections are subject to considerable wear as the stream seems to be determined to return to and re-open its old river beds. Considerable work should be done in this section on several such locations. The bed of the stream in this section is also rising from silt and gravel carried down on each rise of water. The gravel deposit does not seem to pass beyond the upstream end of this section where there is forming a considerable gravel bar which is growing materially larger after each high water.

PUYALLUP SECTION

5900 lineal feet- Interurban crossing to North Puyallup Bridge.

This section lies in the City of Puyallup. This section has some concrete slab bank protection as the preceeding two sections, which will require the same treatment. In addition there are several problems in connection with the old river channels which will require a considerable amount of rock bank protection. Some work has been done but practically nothing has been completed. This section is in a rather dangerous condition and considerable work should be done before another major flood occurs.

ROESLI SECTION

13000 lineal feet- North Puy. Bridge to Summer.

This section from the North Puyallup Bridge to the junction of the Puyallup and Stuck Rivers, a distance of approximately 8000 feet is in need of considerable work on the south bank in particular as at one time the old channel made quite a detour to the south. Some groin work has been done and some bank protection placed. This section should have considerable attention during the next dry season. The means of access to this section are quite inadequate in wet weather and the roads should be graveled as they may be needed at all seasons. Some rock in the groins already constructed should be moved as it is not serving any useful purpose and by moving a short distance could be used more advantageously. The area on the Stuck above the mouth of the Puyallup includes the City of Summer and numerous places need more protection.

DIERINGER SECTION

18000 lineal feet-Summer to Stewart Road.

This section passes thru a highly developed agricultural area. The alluvial soil is deep and the river has many bends some of which are quite sharp. The cutting action is rather great at certain stages of water. The means of access to the river bank are probably more inadequate on this section than for any other part of the river. The land is highly cultivated and in some instances the property owners object to our crossing their property. The spillway from the Dieringer power plant empties into the river in this section and as the plant is being operated to full capacity there is a considerable problem created at this junction. Some bank protection has been

placed but many more places are badly in need of treatment.

COUNTY LINE SECTION

6750 lineal feet- Stewart Road to Auburn Bridge.

This section is in the area where the gradient which was heaviest at the Auburn Wall begins to flatten out, because of reduced velocity and large amounts of gravel are deposited. A large amount of gravel has been removed from the channel in the section and deposited on the land, and a large stock pile has been made near Stewart Road. This removal of gravel does not solve the problem, as a single flood fills up the excavation very rapidly. There have been some rock groins built and some bank protection placed in this section. There still remains a considerable area where the dykes should be raised and more rock placed for bank protection. There is a stretch of loose rock dyke that should either be moved or be backed up with earth dyke and more rock placed, as it is not high enough at present.

AUBURN SECTION

9700 lineal feet- Auburn Bridge to above Auburn Wall.

This section is probably the most difficult on the river because of the scour brought to it from the canyoon. Prior to the flood of 1906, the river turned north just below the mouth of this canyon, and spread its scour over a plateau of some four or five square miles, between this turning point and Green River. A massive concrete wall was early built to close the river off from every part of that plateau. As a result the thousands of cubic yards of boulders, heavy gravel, sand and silt are carried down

the stream bed, the larger sized scour principally deposited prior to the end of the County Line Section, as before stated. The so called fines, however, flow on down until checked by tide water, and have dangerously filled the channel of the river to and through the City of Tacoma. No part of the stream from the mouth of the canyon is free from deposit coming from the canyon, and unless we can devise some plateau or other matter on which to deposit and hold this scour, we have on our hands a perpetual burden and cause of continued maintenance and threat of damage by reason of extensive overflow caused by channel filled with scour.

Many methods have been tried but none have proven of lasting benefit. The plan has been to construct groins and retards on the north bank to divert the water toward the south bank. Recently a groin 1300 feet in length has been built from the north bank and two from the south bank, one 400 feet and the other 350 feet in length. The first groin on the south bank diverts the water to the long north groin which in turn diverts the stream back to the second south groin. These groins are placed on the gravel bed of the stream and during the high water of December 19th the water undercut some of the rock and some has been lost in the down stream groin on the south bank of the river. We suggest that this rock be picked up and placed along the banks for bank protection and allow the stream to flow where it desires in this section. This work should be accomplished as soon as possible to avoid the loss of as much rock as possible. We have arranged for access to the banks in practically all of this section and this rock can moved at a very reasonable cost.

These sections cover a distance of approximately 15 miles.

			ESTIMATED EXPENDITURES 1942
Reservation Section	17000 lin. ft.	3.2 mi.	$ 6400.00
Murphy Section	8950 " "	1.7 "	2400.00
Puyallup Section	5900 " "	1.1 "	2200.00
Roesli Section	13000 " "	2.4 "	4800.00
Dieringer Section	18000 " "	3.4 "	17000.00
County Line Section	6750 " "	1.3 "	6500.00
Auburn Section	9700 " "	1.9 "	9500.00
Giving a channel length of	79300 " "		$ 49800.00

RECOMMENDATIONS FOR FUTURE OPERATIONS

SURVEY AND MAPS

1. A complete new survey should be made and appropriate maps made of same. From this information studies can be made to determine the possibilities of enlarging the capacity of the channel, either by setting back banks, lowering bed of stream or removing bottlenecks.

When Mud Mountain Dam is completed and a determination of the volume of water to be released is made by the Army Engineers, we should have information enough to estimate what will be necessary to take care of this flow. A very close contact should be kept with the operation of the dam to see that we receive the maximum benefit. It is within the range of possibility that this Inter-County organization may some day be called upon to play a major part in this operation. Studies should be made relative to retards to control the flow of gravel in the channel. This has been accomplished in places and may be the solution of a serious problem, in the lower Puyallup River. The City of Tacoma section of the river is badly silted at present. The War Department has a dredging project for the section. This probably cannot be done under existing conditions. However, the dredging of this portion of the channel will be a recurring project unless some method is devised to stabilize the gravel and silt in the upper reaches. The confining of the river to a channel of uniform width means a greater velocity and a consequent greater scour. In some locations it may be good policy to allow the water to spread out in flood stages. Where streams at steep gradients are confined to uniform channel width, extensive dredging at the mouth of the stream

usually results. This results in continuous expenditures.

Flood control projects on the upper Puyallup and Carbon Rivers should be given consideration in any future plan for the lower Puyallup.

2. OFFICE: A location for a permanent office should be selected on the Puyallup River. The United States Geological Survey should be asked to cooperate in installing proper equipment for stream gaging at or near the office as there will be constant communication between the Mud Mountain Dam and the station on the Puyallup River for the control of the flow at the Dam. The selection of this site will be a matter of major importance as this will be the control point for all flood control installations placed in the future on any of the tributary streams in the Puyallup watershed.

3. SHOP AND EQUIPMENT: The shop is not essential to our present operation. The shovel and trucks used on the rock haul are owned by Pierce County or are rental trucks. The compressors and rock drilling tools do not need a great amount of mechanical work and such as they do require can be done either by Pierce County mechanics or by contract. We are able to do most of the minor repair work at the quarry and such tools as we require can be kept there. We have equipment that dates back to the beginning of this project that should be disposed of. This can be done from time to time. Also there is considerable metal that should be disposed of as junk. It has considerable salvage value where it can be used but we have no use for it here. We should discontinue this shop layout and dispose of the lathe which should be placed in some place where it can be of some service. This can be accomplished when conditions warrant these changes.

4. QUARRY: Our present quarry has the advantage of being the closest rock available. It produces a large percentage of columner rock which does not lay as well as could be desired. There is massive rock available and this will be developed. To secure the desirable rock it will require that the top cap of rock in the quarry be wasted which means periods during which no rock will be placed on the river. It is only a matter of a year or two until a new source of rock will be necessary. Investigation to date indicate the nearest available supply will add at least four miles to the haul. Should a quarry be found with a high quality of rock this additional haul would not be too serious. Several additional locations remain to be investigated some of which will require extensive road construction that may be prohibitive unless we can get assistance from some source.

1942 WORK PROGRAM

Pierce County is furnishing their own shovel in place of rental shovel used during 1941. The shovel will be moved to the Auburn Section about January 12th to remove rock placed in groins on gravel bars for replacement on bank as blanket protection.

The county will also furnish the trucks and will be entitled to the usual rental for this equipment. Some dykes will be raised with gravel to make them a uniform height. After this operation the shovel will be moved to the Quarry and rock hauling will begin to such places as the need is greatest. The last high water developed spots that require attention in the near future and we may have another runoff soon.

The program is purely tentative and will be kept flexible enough at all times to meet any changes that may be necessary. The future will undoubtedly bring many changes and our program will be made to meet them. We have a new WPA project that has been approved. However, all available WPA labor is being used on National Defense work and the probabilities are that very little if any such assistance will be available. The WPA assistance on this project has been of vital importance. In the past practically all labor work was accomplished in this manner, such as brushing, road building and snagging. During the past year at least $1,000 per month was furnished in such labor. We will have to do these operations with our own funds in the future, which means that a continuous flow of rock from the quarry may be impossible.

Our intention is to spread the rock placement to cover the points where the need is greatest and continue this method to the

limit of our funds. There is considerable drift on the river bars at present and we will have more on the next runoff. This will be removed during the summer low water. In this connection a tractor is necessary and the usual method followed has been to rent one. This work should have a light tractor with dozer and drum in continuous operation. Such a piece of equipment would build access road, clear snags and drift and place rock along the toe of banks. It may be necessary to do considerable of our road building by tractor and this will be the most economical in the end.

We will make every effort to get WPA assistance before making any commitments on tractors. Should we have to depend on our own efforts it would be advisable to expend about $3,000 on a tractor for this work.

We do not recommend initiation of any operation of any magnitude under present conditions. With increase in wages and the cost of material and supplies it will require all our available funds to keep abreast of needed maintenance, keeping in mind at all times, that we may encounter conditions not anticipated. In making our estimate of expenditures by sections we took into consideration all the above factors and made the estimate in lump sum without reference to unit cost which under present conditions cannot be anything but problematical.

ROCK PLACED DURING YEAR 1941

LOCATION		CUBIC YARDS		TYPE
AUBURN SECTION				
L.B.	Auburn Gravity Line	708		Blanket
L.B.	Cleaver Wall	116		Low Dike
R.B.	Cleaver Wall	944		" "
R.B.	Cleaver Wall	192		Blanket
L.B.	Auburn Bridge Upstream	1432		"
R.B.	Auburn Bridge Upstream	80		"
L.B.	Anderson Place- Charcoal Rd.	100		"
L.B.	Mellish Place	2072		Groin
L.B.	Mellish Place	92		Blanket
R.B.	Auburn Wall	1124		"
R.B.	Game Farm	220		"
	Total.....	7080		c.y. 1.6483 = 11.669.96
COUNTY LINE SECTION				
L.B.		100		c.y. 1.6483 = 164.83 Blanket
DIERINGER SECTION				
L.B.	Spencer Farm	412		Blanket
L.B.	Mocerri "	2006		"
R.B.	" "	380		"
L.B.	Spillway Downstream	564		"
L.B.	Zander Farm	1160		"
L.B.	Tom Skieuga	1088		"
L.B.	Joe McGee	1520		"
L.B.	Darud Place	360		"
L.B.	" " Rd Material		28	
L.B.	A. G. Lewis	424		"
L.B.	Perfield Place	2852		"
L.B.	Spillway Upstream	368		"
	Total.....	11136	28	

$\frac{28}{11.164} \times 1.6483 = 19.401.62$

ROCK PLACED DURING YEAR 1941 cont.

LOCATION		CUBIC YARDS		TYPE
ROESLI SECTION				
L.B.	Winningham Place	352		Blanket
L.B.	Morr's Place	256		"
L.B.	Days Farm	296		"
	Days Farm	40		Groin
R.B.	Sturgis Cut- Puy. River	756		Blanket
L.B.	Stieneup Farm	428		"
L.B.	Geo. Coffin	120		"
L.B.	Browns Place	200		"
L.B.	Gline Place	236		"
L.B.	McCoul "	196		"
	Rd Material		4	
L.B.	Crosby Place	552		"
L.B.	Puy. Bulkhead No. 3	2580		Groin
	Total.....	6012	4	C 1.6843 = 9.916.17
PUYALLUP SECTION				
L.B.	Sta. 250	692		Groin
	" 1 Indian Camp	356		"
	Total.....	1048		C 1.6843 = 1.728.26

TOTAL ROCK PLACED ..... 25,408 c.y.

SUMMARY

Auburn Section	1.9 miles	7080 cu. yds.	# 11.669.96
County Line Section	1.3 "	100 " "	164.83
Dieringer Section	3.4 "	11164 " "	18.401.62
Roesli Section	2.4 "	6016 " "	9.916.17
Puyallup Section	1.1 "	1048 " "	1.728.26
Murphy Section	1.7 "	0 " "	
Reservation Section	3.2 "	0 " "	
		25408 " "	41.880.84

BALANCE SHEET ON ROCK TAKEN FROM QUARRY
FROM March 1-39 to Dec. 31,1941.

	Charge to I C R I	Charge to Pierce Co.	Credit to I C R I	Credit to Pierce Co.
Balance in favor of I C R I			$ 129.43*	
25,408 c.y. Rk. @ $.47651 / c.y.	$12,107.17			
35,640 c.y. Rk. @ $.47651 /c.y.		$16,982.82		
Royalty for 1941 on 25,408 c.y.	254.08			254.08
Quarry Outlay 1941			11,991.23	17,099.17
	12,361.25	16,982.82	12,120.66	17,353.25

Inter-County should have spent $12,361.25
" " credits 12,120.66

" " underpaid.....$240.59

Pierce County credits $ 17,353.25
" " should have spent 16,982.82

" " overpaid..... 370.43

Balance in favor of Pierce County.....$ 611.02

*Pierce County failed to receive credit for royalty for 1939 and 1940 amounting to $548.14. This amount taken from $677.57 shown as balance in favor of Inter-County on 1940 annual report leaves the figure of $129.43 as shown above.

QUARRY COSTS FOR 1941

Cost on Basis of 61,048 cubic yards of rock taken from Quarry

QUARRYING		
Supervision	$1700.00	
Equipment Rental	1800.00	
Labor	8434.98	
Miscellaneous Supplies	938.07	
Steel	353.95	
Powder	1071.46	
Compressor Gas-Oil	396.31	
Sub-Total.....		$14,694.77 or $.240 / c.y.
LOADING (Includes waste disposal by shovel)		
Shovel Operation	6237.26	
Shovel Rental	4645.10	
Shovel Gas-Oil	1034.89	
Sub-Total.....		11,917.25 or $.195 / c.y.
		26,612.02 or .435
Watchman and Checker.....		2,478.38 or .041 / c.y.
TOTAL.....		$29,090.45 or .4765/ c.y.

POWDER RECORD FOR 1941

Powder on hand Dec. 31, 1940	9,950 lbs
Powder purchased in 1941	8,900 "
	18,850 "
Powder on hand Dec. 31, 1941	5,650 "
Powder used in 1941	13,200 "

COST OF ROCK ON WHITE AND PUYALLUP RIVERS

Total Rock Hauled during 1941	25,408 cubic yards
Total Rent on Trucks	$ 26,141.44
Total Cost to place (does not include WPA Help)	$ 3,748.17

Cost per cubic yard to quarry	$.240
Cost per cubic yard to load	.195
Cost per cubic yard to haul	1.028
Cost per cubic yard to place	.1475
Cost per cubic yard Watchman and Checker	.0406
Cost per cubic yard on Rivers	$1.651

QUARRY OPERATION FOR THE MONTH OF DECEMBER

1941

INTER-COUNTY		PIERCE COUNTY	
Labor	$489.00	Shovel Operation	$366.00
Supervision	150.00	Ind. Ins. & Bureau	6.74
Ind. Ins. & Bureau	13.78	Miscellaneous Supplies	36.06
		Shovel & Comp. Gas-Oil	66.72
		Shovel Rental	245.10
		Quarry Watchman	103.73
		Quarry Checker	93.37
Total Cash Expended	652.78		917.72
Equipment Rental	150.00		.....
Total Expended	$ 802.78		$917.72

	Contribution Previous Mos.	Contribution December	Contribution To Date
Inter-County	$11,188.45	$802.78	$11,991.23
Pierce County	16,181.45	917.72	17,099.17
	$27,369.90	$ 1720.50	$29,090.40

	Rock Taken Previous Mos. c.y.	Rock Taken December c.y.	Rock Taken To Date c.y.
Inter-County	23,984	1,424	25,408
Pierce County	33,104	2,536	35,640
	57,088	3,960	61,048

Total Expended to Date $29,090.40. Total Rock Taken to Date 61,048 c.y.

$\frac{29,090}{61,048}$ equals $.47651 / c.y.

Inter County took 25,408 c.y. equals $12,107.17, actually spent $11,991.23

Pierce County took 35,640 c.y. equals $16,982.82, actually spent $17,099.17

FINANCIAL STATEMENT
INTER COUNTY RIVER IMPROVEMENT
DECEMBER 1941

ITEM	EXPENDITURES PREVIOUS MOS.	EXPENDITURES DECEMBER	EXPENDITURES TO DATE Dec/31-41
General Control	$5,231.50	$586.57	$5,818.07
Equipment	1,165.25	-40.03	1,125.22
Watchman	1,176.51	112.41	1,288.92
Quarry Job No. 171	11,188.45	802.78	11,991.23
Place Rock Job No. 175	3,576.76	171.41	3,748.17
Haul Rock Job No. 170	24,660.48	1,480.96	26,141.44
Bldg. Repair	58.64	.....	58.64
Stock Acct.	- 29.44	- .37	- 29.81
Labor Revolv. Fund	102.38	.....	102.38
	$47,130.53	$3,113.73	$ 50,244.26

Total Cost of Equipment

	Pierce County	King County	Total
Expenditures Prev. Mos.	$20,227.57	$ 26,902.96	$47,130.53
Expenditures in December	112.68	3,001.05	3,113.73
	20,340.25	29,904.01	50,244.26
Budget Levy	20,500.00	30,000.00	50,500.00
Expenditures to Date	20,340.25	29,904.01	50,244.26
Balance in Fund Dec. 31st.	159.75	95.99	255.74

Uncollected Equipment Sales
Pierce County Road District #3-1 $470.00

King County Road District #1-2 $200.00
" " " " 92 H.P.Buda 1800.00
2000.00

By Credit Wash. Mach. Check on Hoist 750.00
1250.00

Funds due us by Road Districts $1,720.00

Deposits made to Pierce County Treasurer 1941
Gas Refunds 9.00
Rock and Equipment sales 1,161.88

Respectfully submitted,

F.E.Walter, Chief Engineer
Inter-County River Improvement